

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

*Presented By*



## Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

## Community Participation

You are encouraged to visit the City of Mission website to participate in community events. The web link is as follows: <https://missiontexas.us/news-events/>

## Where Does My Water Come From?

The City of Mission, Water Systems consists of two water treatment plants: the South Water Treatment Plant (8.0 million gallons per day [mgd]) and the North Water Treatment Plant (17.5 mgd). Our raw water source is the Rio Grande River, and the raw water is delivered from the river to the reservoirs via irrigation canals. Combined, our water treatment facilities can treat and purify 25.5 million gallons per day of clean drinking water.

### Water Conservation and Drought Contingency Plan

The City of Mission has implemented a Water Conservation and Drought Contingency Plan (WCDCP) to manage and provide an adequate water supply to meet the future needs of our customers. The purpose of this plan is to establish procedures to identify, classify, and manage an effective and efficient water supply during high water demand or water-shortage emergency. Excessive demand on the water treatment plants and/or continually falling treated-water reservoir levels, which do not refill overnight to a specific level, will trigger four stages of the water conservation plan. These stages range from Stage 1 (voluntary stage) to Stage 5 (water rationing). Utility customers in the City of Mission are encouraged to follow voluntary water conservation Stage 1 under our WCDCP to limit their daily water usage by using good management practices for water conservation. Utility customers will be notified before any stage level change. At such time, customers may incur a surcharge fee based on individual customer's water-usage history for Stages 3, 4, and 5. Fines that may exceed \$200 may be imposed for any violations of any stage of the water conservation plan and, depending on the severity of the violation, the customer's water service may be terminated.

## Emergency/Supplemental Water Sources

On March 15-17, 2020, June 18, 2020, and July 11-17, 2020, the City of Mission coordinated the delivery of potable water from the City of McAllen, TCEQ Public Water System ID No. 1080006, to supplement our water pressure to facilitate critical equipment upgrades or repairs. For any questions about this water system, please call (956) 681-1700.

## Testing for *Cryptosporidium*

*Cryptosporidium* is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of source water indicates the presence of these organisms. On January 17, 2017, one *Cryptosporidium* oocyst was reported from our North raw water intake supplied by an irrigation canal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

## Water Loss Audit

In the water loss audit submitted to the Texas Water Development Board during the year covered by this report, our system lost an estimated 531.9 million gallons of water, or 10.6 percent. If you have any questions about the water loss audit, please call (956) 580-8780.

## Important Health Information

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health-care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at (800) 426-4791.

**QUESTIONS?** For more information about this report, or for any questions related to your drinking water, please call Filemon Olvera, Water Treatment Plant Supervisor, at (956) 584-4310.

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it can acquire naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban storm-water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban storm-water runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which may also come from gas stations, urban storm-water runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Tips to Prevent Storm Water Pollution

1. Remember to turn off your sprinklers when it rains to avoid water runoff; during winter, runoff can freeze, causing slippery conditions.
2. Bag your pets' waste. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drains and eventually into local water bodies.
3. Don't apply pesticides, fertilizers, or herbicides before it rains. Contrary to popular belief, the rain won't help to soak these chemicals into the ground; it will only help create polluted runoff into our local creeks.
4. Select native and adapted plants and grasses that are drought- and pest-resistant. Native plants require less water, fertilizers, and pesticides. Learn more about native and adapted plants at [www.txsmartscape.com](http://www.txsmartscape.com).
5. Reduce the amount of paved area and increase the amount of vegetated area in your yard.
6. If you change your car's oil, don't dump it on the ground or in the storm drain. Dispose of it properly at an oil recycling center.
7. Check your car, boat, or motorcycle for leaks. Clean up spilled fluids with an absorbent material; don't rinse the spills into the storm drains.
8. Don't get rid of grass clippings and other yard waste by dumping it or sweeping it into the storm drain; this will deplete the oxygen for aquatic life. Instead, compost your yard waste.
9. When washing your car at home, wash with only water or use biodegradable soap and wash it on a lawn or other unpaved surface. Better yet, take your car to a professional car wash.
10. Don't get rid of old or unused paint by throwing it down the storm drain; dispose of paint and other household hazardous waste at recycling facilities.
11. Don't pump your pool water into the storm drain; pool chemicals can be hazardous to our creeks' habitats. Whenever possible, drain your pool into the sanitary sewer system where the water can be treated.
12. Don't mess with Texas! Throw litter away in a garbage can, not out your window. Recycle what you can!

## Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. This water supply is responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. And, the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

The percentage of Total Organic Carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set.

We participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Alpha Emitters</b> (pCi/L)	2017	15	0	2	2–2	No	Erosion of natural deposits
<b>Arsenic</b> (ppb)	2020	10	0	2.5	0–2.5	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
<b>Barium</b> (ppm)	2020	2	2	0.107	0.0963–0.107	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Beta/Photon Emitters<sup>1</sup></b> (pCi/L)	2017	50	0	7.1	7.1–7.1	No	Decay of natural and man-made deposits
<b>Chloramines</b> (ppm)	2020	[4]	[4]	2.67	1.06–4.41	No	Water additive used to control microbes
<b>Chlorite</b> (ppm)	2020	1	0.8	0.774	0.05–0.774	No	By-product of drinking water disinfection
<b>Combined Radium</b> (pCi/L)	2017	5	0	1.5	1.5–1.5	No	Erosion of natural deposits
<b>Cyanide</b> (ppb)	2020	200	200	80	40–80	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
<b>Fluoride</b> (ppm)	2020	4	4	0.4	0.37–0.44	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]<sup>2</sup></b> (ppb)	2020	60	NA	19	12.4–25.9	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2020	10	10	0.47	0.09–0.47	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Selenium</b> (ppb)	2020	50	50	5.3	3.9–5.3	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
<b>TTHMs [Total Trihalomethanes]<sup>3</sup></b> (ppb)	2020	80	NA	50	20.3–66.6	No	By-product of drinking water disinfection
<b>Turbidity<sup>4</sup></b> (NTU)	2020	TT	NA	0.29	0.05–0.29	No	Soil runoff
<b>Turbidity</b> (lowest monthly percent of samples meeting limit)	2020	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff
<b>Uranium</b> (ppb)	2017	30	0	2.3	2.3–2.3	No	Erosion of natural deposits

## Tap Water Samples Collected for Copper and Lead Analyses from Sample Sites throughout the Community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.079	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	1.4	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

<sup>1</sup>The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

<sup>2</sup>The value in the Amount Detected column is the highest average of all HAA5 sample results collected at a location over a year.

<sup>3</sup>The value in the Amount Detected column is the highest average of all TTHM sample results collected at a location over a year.

<sup>4</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

## About Our Violation

The City of Mission water system PWS ID 1080008 has violated the monitoring and reporting requirements set by Texas Commission on Environmental Quality (TCEQ) in Chapter 30, Section 290, Subchapter F. Public water systems are required to collect and submit chemical samples of water provided to their customers, and report the results of those samples to the TCEQ on a regular basis.

We failed to monitor and/or report the following constituents: Group 5 Synthetic Organic Chemicals (SOC5). These reporting violations occurred in the monitoring period from 10/01/2020 through 12/31/2020.

Results of regular monitoring are an indicator of whether or not your drinking water is safe from chemical contamination. We did not complete all monitoring and/or reporting for chemical constituents, and therefore TCEQ cannot be sure of the safety of your drinking water during that time.

We took the following actions to address this issue: City staff resolved a past due account with the Texas Department of Health Laboratory (TDH) and, as a result, the Laboratory promptly released the lab results to TCEQ to determine compliance during the monitoring period. The lab data confirm that the City of Mission continues to produce and deliver drinking water that meets state and federal standards.

Please share this information with all people who drink this water, especially those who may not have received this notice directly (i.e., people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

If you have questions regarding this matter, you may contact Filemon Olvera, Water and Wastewater Plants Supervisor, at (956) 580- 8780.

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable.

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

## Source Water Assessment

TCEQ completed an assessment of your source water, and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water system is based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact Filemon Olvera, Water Treatment Plant Supervisor, at (956) 584-4310.

SOURCE WATER NAME	TYPE OF WATER REPORT	STATUS	LOCATION	SUSCEPTIBILITY RATING
Mission City Reservoir	SW	Active	4th Street and 514 Perkins Ave.	High
North Plant Reservoir	SW	Active	2801 N. Holland	High

## How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from our water source and sent to the reservoir where copper sulfate (algae control) is added. Gravity then causes the raw water to flow to the raw water pump intake, where we add powdered activated carbon (taste and odor control). Then the water is pumped to the water treatment plant. The water then goes to a rapid mixer where aluminum sulfate and polymer are added. Chlorine dioxide is added for disinfection. The addition of these substances causes small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed. At this point, the water is filtered through layers of anthracite coal and sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine and ammonium sulfate are added as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine added, adding the smallest quantity necessary to protect the safety of your water without compromising aesthetics). Finally, polyphosphate, a corrosion inhibitor (to protect distribution system pipes) is added before the water is pumped to sanitized, underground reservoirs, water towers, and into your home or business.

